A COURSE SYLLABUS – DOCTORAL SCHOOL
REGARDING THE QUALIFICATION CYCLE FROM 2022 TO 2026

GENERAL ITEM INFORMATION	
Course title	**Doctoral Laboratory**
Name of the unit running the course	**Doctoral School at the University of Rzeszów**
Type of course *(obligatory, optional)*	obligatory
Year/semester of studies	Year I/semester I, Year I/semester II, Year II/semester III, Year II/semester IV, Year III/semester V, Year III/semester VI, Year IV/semester VII, Year IV/semester VIII
Discipline	**Medical sciences**
Language of course	Polish/English
Name of the course coordinator	**Prof. Adam Reich, MD, PhD**
Name of the course lecturer	**Prof. Adam Reich, MD, PhD**
Prerequisites	Completed higher education or advanced education at the higher education level. Knowledge of English enabling fluent reading of scientific texts and conducting scientific discussions in this language.

BRIEF DESCRIPTION OF COURSE
(100-200 words)

The aim of the course is to prepare doctoral students to plan and carry out a research project, which will then form the basis for the preparation of a doctoral dissertation on the basis of which the doctoral student will apply for a doctoral degree in medical sciences and health sciences, in the scientific discipline of medical sciences. As part of the course, doctoral students will acquire knowledge, skills and social competences in the following areas:

1. Preparing a literature review in a subject area relevant to the planned research project.
2. Formulating a research hypothesis, on the basis of which a research project will be prepared.
3. Planning a research project aimed at verifying the assumed research hypothesis.
4. Basic statistical analyses, including determining the size of the research group necessary to reliably verify the research hypothesis.
5. Preparing the necessary documentation that will allow scientific research to be conducted.
6. Processing of the research results obtained, including the preparation of tabular summaries and graphical representation of the results.
7. Preparation of a paper for publication describing the research results obtained in the course of experimental work.
8. Preparation and submission of a doctoral dissertation, including the necessary documentation.

LEARNING OUTCOMES FOR THE SUBJECT AND ASSESSMENT METHODS

Learning outcome	The description of the learning outcome defined for the course	Relation to the degree programme outcomes (symbol)	Learning Format (Lectures, classes,…)	Method of assessment of learning outcomes (e.g. test, oral exam, written exam, project,…)
Knowledge: Knows and understands				

P8S_WG/1	He has theoretical and practical knowledge in the broadly understood field of skin disease treatment, to a degree that provides a basis for revising existing views on the subject.	P8S_WG	Laboratories/ Seminar	Discussion, assessment
P8S_WG/2	Possesses extensive theoretical and practical knowledge, understands the importance of international cooperation in conducting scientific research as well as in jointly analysing and publishing research results related to skin diseases in the field of medical sciences and related disciplines.	P8S_WG	Laboratories/ Seminar	Discussion, assessment
P8S_WG/3	Knows and understands the network of concepts and specialist terminology used in the discipline of medical science and related sciences in their native language and in the leading foreign language for the discipline.	P8S_WG	Laboratories/ Seminar	Discussion, assessment
P8S_WG/4	Has a solid knowledge of the principles of planning, organising and conducting scientific research. Knows the methodology of specialist medical scientific research, using interdisciplinary research techniques and tools.	P8S_WG	Laboratories	Discussion, assessment
Skills: Able to				
P8S_UW/1	Use meta-analyses in the research process, plan and conduct scientific research based on reliable research methods, define the purpose and subject of scientific research, formulate a research hypothesis, select research methods, tools and techniques. Be able to use them creatively and draw conclusions based on them.	P8S_UW	Laboratories	Discussion, publication
P8S_UW/2	The doctoral student is able to classify scientific publications, including scientific journals, and published scientific achievements according to the accepted rules in the discipline of medical science, is	P8S_UW	Laboratories/ Seminar	Discussion, publication

	able to identify and solve research problems and use all opportunities to make further discoveries in their scientific research.			
P8S_UW/3	They are able to critically assess available expert analyses, published scientific research results and other scientific works in terms of their contribution to the development and dissemination of medical knowledge.	P8S_UW	Seminar	Discussion, publication
Social competence: Ready to				
P8S_KK/1	He is ready to critically evaluate existing scientific achievements in the field of medical science and related disciplines relating to skin diseases and treatment.	P8S_KK	Seminar	Discussion, oral presentation
LEARNING FORMAT – NUMBER OF HOURS				

Semester (no.)	Lectures	Seminars	Laboratories/ Seminar	Internships	Other	**ECTS**
I	-	-	30 hrs.	-	-	**3**
II	-	-	30 hrs.	-	-	**3**
III	-	-	30 hrs.	-	-	**3**
IV	-	-	30 hrs.	-	-	**3**
V	-	-	30 hrs.	-	-	**3**
VI	-	-	30 hrs.	-	-	**3**
VII	-	-	30 hrs.	-	-	**3**
VIII	-	-	30 hrs.	-	-	**3**
Total:			**240 hrs.**			**24 ECTS**

METHODS OF INSTRUCTION
Contact with the doctoral student during classes, assessment of substantive activity during classes, assessment of involvement in discussion, assessment of preparation and implementation of research.
COURSE CONTENT
Curriculum content covered in semesters I to VIII of the course: Doctoral workshop, form of classes: laboratories and seminars.

1. Discussion on the principles of reliability and specificity of conducting scientific research in the field of medical sciences.
2. Selection of available literature for the planned research.
3. Development of a general research plan relevant to the completion of the doctoral dissertation based on previously formulated research hypotheses and research objectives (general and specific objectives).
4. Preparation of documentation that will allow scientific research to be carried out.

5. Selection and preliminary implementation of research methods, techniques and tools for the effective implementation of the developed general research plan as part of the doctoral dissertation.
6. Conducting a pilot study.
7. Analysis of the results of the pilot study and discussion of the research findings.
8. Implementation of research methods, techniques and tools for the effective implementation of the general research plan developed as part of the doctoral dissertation.
9. Conducting scientific research related to the topic of the doctoral dissertation.
10. Analysis and interpretation of the obtained results.
11. Preparation of manuscripts of scientific articles based on the research results obtained.
12. Work on the preparation of individual chapters of the doctoral dissertation.
13. Preparation of a shortened multimedia presentation of the doctoral dissertation.

COURSE ASSESSMENT CRITERIA

Oral examination with a grade after each semester. Applicable grading scale: 2.0, 3.0, 3.5, 4.0, 4.5, 5.0.

The requirements for passing the course include designing and conducting a medical experiment or other equivalent research work, compiling the research results, preparing a conference presentation and a publication for print, as well as demonstrating highly specialised knowledge relevant to research work. Detailed assessment of knowledge, skills and social competences:

5.0 – demonstrates knowledge of each of the course contents at a level of 90%-100%
4.5 – demonstrates knowledge of each of the course contents at a level of 84%-89%
4.0 – demonstrates knowledge of each of the course contents at a level of 77%-83%
3.5 – demonstrates knowledge of each of the educational contents at a level of 70%-76%
3.0 – demonstrates knowledge of each of the educational contents at a level of 60%-69%
2.0 – demonstrates knowledge of each of the educational contents below 60%

TOTAL PhD STUDENT WORKLOAD REQUIRED TO ACHIEVE THE INTENDED LEARNING OUTCOMES – NUMBER OF HOURS AND ECTS CREDITS

Activity	Number of hours
Scheduled course contact hours	**8 X 30 hrs. - 240 hrs.**
Other contact hours involving the teacher (consultation hours, examinations)	0
Non-contact hours – student`s own work (preparation for classes or examinations, project, etc.)	480 hrs.
TOTAL NUMBER OF HOURS	720 hrs.
TOTAL NUMBER OF ECTS CREDITS*	24

INSTRUCTIONAL MATERIALS

Compulsory literature:	Bologna J.L., Schaffer J.V., Cerroni L. Dermatology. Vol. 1, Vol. 2. Elsevier 2017
Complementary literature:	Literature related to the topic of the doctoral thesis

*(1 ECTS CREDIT CORRESPONDS TO 25 - 30 HOURS OF TOTAL WORKLOAD OF THE DOCTORAL STUDENT NEEDED TO ACHIEVE THE EXPECTED OUTCOMES)

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DATE AND SIGNATURE OF THE COURSE TUTOR

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APPROVAL OF THE HEAD OF THE UNIT OR AUTHORISED PERSON